Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

RECENT LITERATURE.

PACKARD'S ZOOLOGY.[1]—In 1876 Dr. Packard published a very convenient text book on comparative embryology, which was the first attempt to present this subject in a complete form for the use of beginners and students. He has followed it with another excellent text book of a wider scope, bearing the title given above. He has succeeded in making this the best text book yet brought out in this country or England, on the complete subject of general zoölogy. There are many useful books considering special parts of the subject, and invaluable descriptions of the anatomy and embryology of typical animals, which no student or laboratory should be without, but none which treat in the same comprehensive manner the whole subject of zoölogy, incorporating in it the latest investigations.

In some respects the plan of the book is unique. The author has intended to embrace an account of the anatomy, and in some cases the embryology of a typical and, when possible, common animal of a class, and after a minute description of the type, has sought to familiarize the student with the peculiarities of closely allied or distantly related animals. In his development of this plan and execution of the work, Dr. Packard has admirably succeeded.

The illustrations, taken for the most part from the works of well-known specialists, are well chosen and clearly reproduced. Teachers in the class room will find them very valuable to copy on the blackboard. Those figures published for the first time, of which there are quite a number, are well fitted to accomplish all that was intended. They are, in most cases, designed simply as helps to the young student in his work on the "gross anatomy," and indicate very well the general shape and position of different organs. They will be found of great value to those for whom the book was intended. Advanced students who would carry their studies into special and original lines of research, would naturally consult monographs by specialists. That need of the young naturalist as he matures in his work, has not been overlooked by the author, and a bibliography has been added to the book full enough of standard works to carry such over the threshold of special research. Several of the chapters close with short directions for laboratory work. This departure from the stereotype way of casting text books, seems to us one of the many excellent points in the work. Any one who has had occasion to use some of the best contributions to anatomy and embryology in late years, will recognize the value of an account of the methods by which results are obtained. This account of reagents used and mode of manipulation followed, the Germans call the author's "Tecknik." The work of Dr. Packard is the first attempt in a general text book on zoölogy to give the young student a good tecknik by pointing out the proper mode of manipulation by which the best results can be reached. It would add much to the value of this part of the book if directions even more elaborate were given, and if more attention was given to methods of "section cutting" and staining of tissues.

---

[1] *Zoölogy for Students and General Readers.* By A. S. PACKARD, Jr., M.D., Ph.D. With numerous illustrations. New York, H. Holt & Co. 8vo, pp. 719. $3:00.

The few errors which a hypercritical reviewer may find in the book, do not detract from its merits. Several specialists, some of whom are themselves teachers in prominent universities, have read over the manuscript of the chapters on their respective specialties; their names are sufficient guarantees of the value of the work which they have revised. The Cœlenterates have not been as fortunate in this respect as their no more deserving relatives, and a few mistakes have crept in. The separation of the sponges from the Protozoa is well made, as justified by late researches on the anatomy and development of both. The researches of Noschin and Metschnikoff (*Zeit. f. wiss. Zool.*, B. XXIV) seem to show the worthlessness of the name Cœlenterates as indicating structural differences from the Echinoderms. The affinity of the group as pointed out by the elder Agassiz and supported by Alex. Agassiz, is the best yet proposed.

The following corrections, of more or less importance, should be made in the book. They are not of such weight as to condemn a work the general plan of which is so good.

On page 60 the author says, "Budding occurs in the medusa of *Sarsia prolifera*, the only example known of budding in free medusæ." Alex. Agassiz (Proc. Bost. Soc. Nat. Hist., Vol. IX, p. 12) has shown that budding occurs in the free medusa of *Lizzia grata*, also (North American Acalephæ, p. 163) in *Dysmorphosa fulgurans* and in *Hybocodon prolifer*. These medusæ are all found in New England waters. Many similar cases have been described in Mediterranean genera.

On page 65 it is stated that ninety species of true "Discophora" are known from the eastern coast of the United States. No one has enumerated more than a dozen forms from this locality, and many species which have been described, as for instance two of the three species of Cyanea, are not "bonæ species."

For the help of those who would work in the prolific field of the study of our jelly fishes, let me add partly as a correction of what is said on page 63 about the "Trachymedusæ," that their most common representative in our waters is not, as in the Mediterranean, the genus Cunina, nor is this Cunina confined to Charleston, S. C. Our most abundant Trachynemida is *Trachynema digitalis* A. Ag., which can at times be collected by hundreds in a single excursion in Narragansett bay. Cunina is also found there but, as in Charleston harbor, is not so numerous.

There is much obscurity on page 65 in the description of the growth of the "tentacles" (?) in Aurelia to form the "mouth opening," and the statement of the position of the eyes. The obscurity comes from the use of the word fringed as applied to the edges of the "mouth opening" and the margin of the disk. The sense organs of Aurelia have no connection with the walls of the "mouth opening." I find no authority for the statement that the "square mouth opening" in *Aurelia flavidula* is formed by the union of four "tentacles." I have also studied the live ephyra of Cyanea and Aurelia, and find no such method of formation of the mouth in these genera.

It is to be regretted that the splendid memoirs of Eimer and the Hertwigs could not have been quoted at greater length. Much, of course, had to be omitted to prevent the book assuming undue proportions The discovery by the latter that the otolith of the Trachynemidæ is endodermic, while that of the free medusa of the Campanularians is ectodermic, is one of their most important discoveries, and should be mentioned.

The statement on page 62 by which the "Discophora" are made to differ from the Hydromedusæ "in developing directly from eggs," and that on page 68 that *Pelagia* ("*campanella*"?) *cyanella* does not undergo a metamorphosis but "grows directly from the eggs" would leave one unfamiliar with the embryology of these animals in doubt as to what is meant by a direct development from the egg. Pelagia differs from Aurelia in that it never passes through an attached strobila stage.

In view of the elasticity of the word homology in recent times, one is not surprised to find the foot of a mollusk compared to the under lip of a worm (?), or *vice versa* (p. 12). It is doubtful whether such a comparison would be accepted by all naturalists, and questionable whether it should be introduced as an illustration of the term in a text book. The term homology, like many others (polymorphism, individual, &c.) is yet to be accurately defined in a manner acceptable to all. At present there is no better illustration of the term than the old comparison of the wing of the bird and the arm of man.—*J. W. F.*

STUDIES FROM THE MORPHOLOGICAL LABORATORY IN THE UNIVERSITY OF CAMBRIDGE.[1]—This thick brochure is mostly taken up with embryological papers which have appeared during the past year in the Quarterly Journal of Microscopical Science and the Proceedings of the Cambridge Philosophical Society. The papers relate mostly to the special points in the development of the Vertebrates. The first paper relates to the existence of a head-kidney in the embryo chick together with some points in the development of the Müllerian duct. In this paper Messrs. Balfour and Sedgwick record the existence of certain structures in the embryo chick, which event-

---

[1] Edited by F. M. Balfour, M.A., F. R. S., Williams and Norgate, 1880. 8° pp. 109. 10 plates.